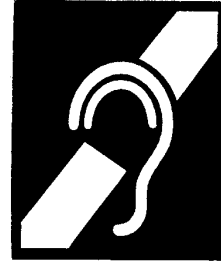


ATTACHMENT T

INFORMATION ON ASSISTIVE LISTENING SYSTEMS

This symbol indicates that an Assistive Listening System is available for people who are hard of hearing. There are several different systems on the market, including Audio Loop, FM, and infrared, which are used for large group settings.



Personal Listening Systems

Personal listening systems can minimize "difficult listening" situations such as small group discussions, table conversation, car rides, and outdoor activities. Composed of a small microphone, receiver and amplifier, these systems transmit the amplified speech signal directly to the listener. The technology of large room systems may appear in these personal listening systems.

Hard-wired devices use an actual wire that connects the device worn by the listener to the sound source through a direct plug-in connection or through the use of a microphone. The listener's separation from the sound source is limited by the length of the cord.

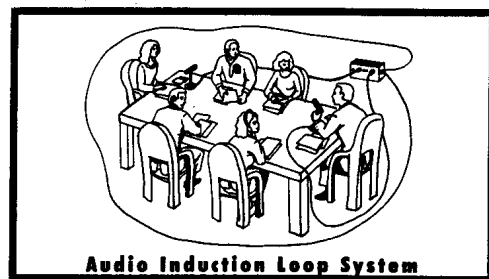
Personal FM systems allow the person with hearing loss unimpeded motion, the capability of hearing the speech signal outside the place from which it originates and can be adapted for television and radio listening.

Individual infrared systems are also available. These systems use specially designed receivers which receive signals from any place in the room where the system is installed.

Audio loops can be used to loop a room, a section of a room, a desk in an office, or a chair for television conversational listening. With a loop wired to a television, for example, a viewer with a hearing loss can adjust the volume on a hearing aid set on the T-switch without disturbing the television listening comfort of others in the room. The hearing aid telecoil, set by the T-switch, can also be used when using the telephone, if the telephone is hearing aid compatible.

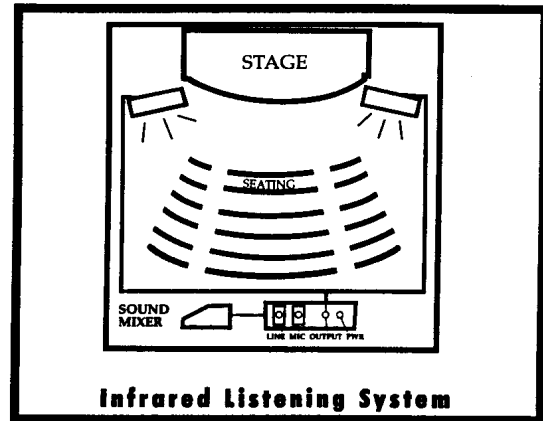
Assistive Listening Devices (ALD)

The components of an Audio Loop System are a microphone, an amplifier, and a length of wire that loops the seating area. The electric current that flows through the loop creates a magnetic field that can be picked up by a hearing aid set on the T-switch. A hearing aid cannot be used with a loop unless it contains a T-switch or a telecoil.



The FM System transmits sound from the source via an FM frequency directly to a receiver worn by the person with a hearing loss. Since transmission can occur over a 300-foot range, this system is ideal for group situations. The FM system can be used with individual hearing aids that have a T-switch, or as a means for direct audio input, such as headphones.

The Infrared System requires the installation of an infrared light emitter that is connected directly to a sound source or to a microphone, such as a public address system. Infrared light rays transmit the sound to portable infrared receivers. Transmission is confined to the room containing the sound source and clear transmission may be affected by a large amount of sunlight. Infrared systems are most effective for persons with a mild to moderately severe hearing loss.



A description of each system follows:

SYSTEM	ADVANTAGES	DISADVANTAGES	TYPICAL APPLICATIONS
<p>Audio Loop</p> <p>Transmitter: Transducer wired to induction loop around listening area</p> <p>Receiver: Self-contained induction receiver or personal hearing aid with telecoil</p>	<ul style="list-style-type: none"> •Cost effective •Low maintenance •Easy to use •Unobtrusive •May be possible to integrate into existing public address system •Some hearing aids can function as receivers 	<ul style="list-style-type: none"> •Signal spills over to adjacent rooms •Susceptible to electrical interference •Limited portability •Inconsistent signal strength •Head position affects signal strength •Lack of standards for induction coil performance 	<ul style="list-style-type: none"> •Meeting areas •Theaters •Churches and Temples •Conference rooms •Classrooms •TV viewing

SYSTEM	ADVANTAGES	DISADVANTAGES	TYPICAL APPLICATIONS
FM Transmitter: Flashlight-sized device worn by speaker. Receiver: With personal hearing aid via direct audio input (DAI) or induction neck-loop and telecoil; or self-contained with earphone(s).	<ul style="list-style-type: none"> •Highly portable •Different channels allow use by different groups within the same room •High user mobility •Variable for large range of hearing losses 	<ul style="list-style-type: none"> •High cost of receivers •Equipment fragile •Equipment obtrusive •High maintenance •Expensive to maintain •Custom fitting to individual user may be required 	<ul style="list-style-type: none"> •Classrooms •Tour groups •Meeting areas •Outdoor events •One-to-one conversations
Infrared Transmitter: Emitter in line-of-sight with receiver. Receiver: Self-contained or with personal hearing aid via direct audio input (DAI) or induction neckloop and telecoil	<ul style="list-style-type: none"> •Easy to use •Insures privacy or confidentiality •Moderate cost •Can often be integrated into existing public address system 	<ul style="list-style-type: none"> •Line-of-sight required between emitter and receiver •Ineffective outdoors •Limited portability •Requires installation 	<ul style="list-style-type: none"> •Theaters •Churches and Temples •Auditoriums •Meetings requiring confidentiality •TV viewing

Source: Appendix, American with Disabilities Act Accessibility Guidelines

For further information, contact
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